GULF BRANCH BRIDGE
George Washington Memorial Parkway, spanning Gulf Branch
Arlington Vicinity
Arlington County
Virginia

HAER No. VA-76

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

PHOTOGRAPHS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
P.O. Box 37127
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I. INTRODUCTION

Location:	George Washington Memorial Parkway milepost 5.22; 5.4 miles south of Interstate-495; bridge carries the parkway over Gulf Branch, a tributary of the Potomac River in Arlington County, Virginia.
FHwA Structure No.:	3300-007P.
Date of Construction:	1957-1959.
Type:	Continuous steel plate girder bridge.
Designer:	Bureau of Public Roads (BPR) with approval from the National Park Service (NPS). William Haussmann, NPS Architectural Designer. T.D. Harris, BPR Division Bridge Engineer for Construction.
Contractor:	Blackwell Engineering Co., Merrifield, VA.
Present Owner:	National Capital Region, National Park Service.
Present Use:	Non-commercial vehicular traffic.
Significance:	Built as part of a project to extend the GWMP closer to a proposed terminus at Great Falls, Virginia.
Project Information:	Documentation of the George Washington Memorial Parkway and Clara Barton Parkway was undertaken as a multi-year project by the Historic American Buildings Survey and the Historic American Engineering Record (HABS/HAER), a combined division of the National Park Service, Robert Kapsch, Chief. The project was sponsored by the Park Roads Program of the National Park Service, John Gingles, Deputy Chief, Engineering and Safety Services Division. The Project Supervisor was Sara Amy Leach, HABS Historian. Bridge reports were prepared by Elizabeth M. Nolin (1988); Michael P. Kucher (University of Delaware, 1993); and Jennifer P. Wentzien (University of Washington, 1994). HABS Report No. VA-69 prepared by Timothy Davis (University of Texas) provides an overview history of the entire parkway project. Jack E. Boucher and Jet Lowe produced the large-format photographs. The Washington-based summer 1994 documentation team was headed by landscape architect Tim Mackey (Harvard University, Graduate School of Design).

II. HISTORY

The Gulf Branch Bridge is one of several bridges designed and built in the 1950s to carry the George Washington Memorial Parkway (GWMP) closer to a proposed terminus at Great Falls, Virginia. The bridge was built when the GWMP was extended from Spout Run to the CIA in Langley, Virginia. The northern segment of the GWMP covers some of the most rugged terrain in the region and had therefore previously remained undeveloped. Perhaps the most difficult aspect of bridge construction across the Potomac palisades was finding a way to get cranes and other construction equipment into the deep cuts.

The design for Gulf Branch Bridge is very similar to a drawing for Windy Run Bridge which appears in a 1950 drawing titled "Steel and Concrete Bridge." The design is credited to William Haussmann of the National Park Service (NPS). Haussmann's name appears on the architectural drawings for GWMP bridge structures from the 1940s through the 1960s. The structural design was executed by Bureau of Public Roads (BPR) engineers in 1957.

The design of Gulf Branch Bridge reflects the popular aesthetic of the period as well as the functionally driven design of a structure on a difficult site which would not often be seen. Christopher Tunnard succinctly describes the aesthetic of the late 1950s and 1960s as "the lighter and cleaner the silhouette, the better the design."[1] At Gulf Branch these effects are achieved by the use of metal railings least obstructive to views, cantilevered "double-T" shaped piers, and a reliance on structural details for ornament. The continued influence of the rustic style advocated for earlier GWMP structures is evident in the stone faced concrete guardwalls along approaches to the bridge. The irregular rough stone facing and lack of granite coping stones is cruder than the masonry of earlier GWMP bridges.

The bridge was built under a contract which included Windy Run Bridge (HAER No. VA-78) and Donaldson Run Bridge (HAER No. VA-77). The three structures are of similar design. The bridges were bid together in two contracts, one for the connecting roadway and abutments and the other for the piers and superstructure. Final construction costs on the contract for all three bridges was $1,573,449.66.[2]

Description

The Gulf Branch Bridge is a three span steel plate girder bridge resting on concrete piers and abutments. The bridge is comprised of two 126' spans symmetrical about a 160' center span. The total length is 492' including wing walls. Two sets of piers are between 50' and 90' high. The roadway provides two 14' lanes with 10' shoulders and a 6' sodded median. Sidewalks are 2'-5" wide and are separated from the roadway by 2' wide curb strips. The total width of the reinforced concrete deck is 68'.

Counterfort type (stepped) footings were cast in place on steep slopes of mica schist rock. Abutments and wing walls were built on the continuous spread footings. Support piers are comprised of two 7' diameter round columns tied with a rectangular concrete beam at the top. The piers were poured in approximately twenty lifts using a light steel shell form. Steel girders rest on the beams. The superstructure is a continuous steel plate girder and floorbeam system. The steel superstructure was fabricated, delivered and

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[1]Christopher Tunnard, Man-made America: Chaos or Control?, 1963, p.244.

[2]Bureau of Public Roads, "Final Construction Report Project 1A2, 1A3, 1A4," 1959.

erected by the Atlas Machine and Iron Works of Arlington, Virginia. The original cast and welded steel guardrails and posts, designed to afford motorists the greatest possible view of the area below, are still in use.[3]

III. SOURCES

Tunnard, Christopher. Man-made Ameriea: Chaos or Control?, Yale University Press, 1963.

U.S. Department of Commerce, Bureau of Public Roads. "George Washington Memorial Parkway of National Capital Parks: Plans for Proposed Project 1A2, 1A3, 1A4: Piers and Superstructures;" "Bridge over Gulf Branch: Plan and Elevation." Microfiche reductions of original construction drawings on file at National Capital Region Park Headquarters, National Park Service, Washington D.C.

U.S. Department of Commerce, Bureau of Public Roads, Region 15. "Final Construction Report, Project 1A2, 1A3, 1A4, George Washington Memorial Parkway Steel Viaducts over Windy Run, Donaldson Run, and Gulf Branch, Arlington County, Virginia." Submitted by E. L. Tarwater, Division Engineer, 9/28/59. On file at the Eastern Federal Lands Division, Federal Highway Administration, Sterling, Virginia.

U.S. Department of the Interior, Historic American Buildings Survey (HABS), No. VA-69, "George Washington Memorial Parkway," 1994. Prints and Photographs Division, Library of Congress, Washington D.C.

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[3]Ibid.